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APPLICATION NO.	FILING DATE	FIRST-NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/698,115	10/30/2000	Akihisa Horiuchi	865.4345 DI	8783

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EXAMINER

THOMPSON, TIMOTHY J

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 03/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/698,115

Applicant(s)

HORIUCHI, AKIHISA

Examiner

Timothy J Thompson

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-18,20,23-26 and 28-42 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-18,20,36-38,41 and 42 is/are allowed.
- 6) ☒ Claim(s) 23,35 and 39 is/are rejected.
- 7) ☒ Claim(s) 24-26,28-34 and 40 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



Claims 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Konno et al.(U.S. Patent No. 6,010,537) in view Yamanashi(U.S. Patent No. 5,808,808).

Regarding claim 23, Konno et al. discloses a first lens unit of positive refractive power(fig 1, Gr1), a second lens unit of negative refractive power(fig 1, Gr2), a third lens unit of positive refractive power(fig 1, Gr3) and a fourth lens unit of positive refractive power(fig 1, Gr4), the fourth lens unit is moved during zooming(fig 1), the third lens unit has, in order from the object side to the image side, a positive lens (fig 1, r15-r16) and a negative meniscus lens having a convex surface facing the object side(fig 1, r19-r20), wherein said second lens unit consists of four single lenses(example 1, r6-r13) including three negative lenses(fig 1, r6-r9 and r12-r13) and one positive lens(fig 1, r10-r11).). Konno et al. does not disclose the positive lens in the third lens unit is aspherical. However, Yamanashi discloses the positive lens in the third lens unit is

aspherical(col 1, line 60). It would have been obvious to one skilled in the art to place an aspherical surface on the positive lens in the third lens unit, as shown by Uzawa, in the lens system of Konno et al., since as shown by Yamanashi, placing an aspherical surface on the positive lens in the third lens unit is commonly done so as to correct for aberrations.

Claims 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over a. Mukaiya et al.(U.S. Patent No. 6,226,130 B1) in view Uzawa(U.S. Patent No. 6,016,228).

Regarding claim 35, Mukaiya et al. discloses a first lens unit of positive refractive power(fig 1, L1), a second lens unit of negative refractive power(fig 1, L2), a third lens unit of positive refractive power(fig 1, L3) and a fourth lens unit of positive refractive power(fig 1, L4), zooming from a wide-angle end to a telephoto end being effected by moving said second lens unit toward the image side(fig 1), and shifting of an image plane due to zooming being compensated for by moving said fourth lens unit(col 6, lines 1-7), wherein said second lens unit consists of four single lenses(example 1, r6-r13) including three negative lenses(example 1, r6-r9 and r12-r13) and one positive lens(example 1, r10-r11). Mukaiya et al. does not disclose one of the four single lenses is aspherical. However, Uzawa discloses one of the four single lenses, in the second lens group, is aspherical (example 1, r9). It would have been obvious to one skilled in the art to place an aspherical surfaces on one of the four single lenses in the second lens group, as shown by Uzawa, in the lens system of Mukaiya et al., since as shown by

Uzawa, placing an aspherical surface on one of the four single lenses in the second lens group is commonly done so as to correct for aberrations.

Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over a. Mukaiya et al.(U.S. Patent No. 6,226,130 B1) in view Yamanashi(U.S. Patent No. 5,808,808).

Regarding claim 39, Mukaiya et al. discloses a first lens unit of positive refractive power(fig 1, L1), a second lens unit of negative refractive power(fig 1, L2), a third lens unit of positive refractive power(fig 1, L3) and a fourth lens unit of positive refractive power(fig 1, L4), zooming from a wide-angle end to a telephoto end being effected by moving said second lens unit toward the image side(fig 1), and shifting of an image plane due to zooming being compensated for by moving said fourth lens unit(col 6, lines 1-7), wherein said second lens unit consists of four single lenses(example 1, r6-r13) including three negative lenses(example 1, r6-r9 and r12-r13) and one positive lens(example 1, r10-r11). Mukaiya et al. does not disclose a surface of the object side of the third lens, of the second lens unit, in order from the object side, is an aspherical surface. However, Yamanashi discloses a surface of the object side of the third lens in order from the object side is an aspherical surface(example 2, r6). It would have been obvious to one skilled in the art to place an aspherical surfaces on the surface of the object side of the third lens, in order from the object side, as shown by Yamanashi, in the lens system of Mukaiya et al., since as shown by Yamanashi, placing an

aspherical surface on the object side, of the third lens, in the second lens unit, is commonly done so as to correct for aberrations

Allowable Subject Matter

Claims 24-26, 28-34, 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. With the important feature being the mathematical limitations pertaining to $F3/FA$, $B4T$, v_n , v_p and N_n .

Claims 12-18, 20, 36-38, 41, 42 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art taken either singularity or in combination fails to anticipate or fairly suggest the limitations of the independent claim, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims 12, 36-38, 41, 42, with the important features being the mathematical limitations pertaining to the radii of curvature of the fourth and fifth lens surface or the relationship of the focal length of $F3/FA$. Therefore, claims 12-18, 20, 36-38, 41, 42 are allowed.

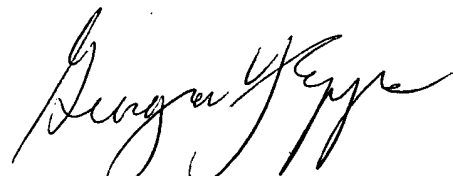
Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Thompson whose telephone number is (703) 305-0881. If the examiner can not be reached his supervisor, Georgia Epps, can be reached on (703) 308-4883.

T.J.T.


Georgia Epps
Supervisory Patent Examiner
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